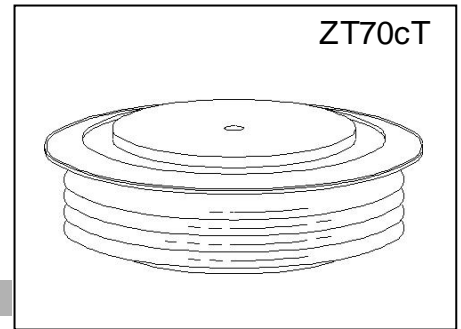




FAST RECOVERY RECTIFIER DIODE

Features:

- . All diffused structure
- . High surge rating
- . Blocking capability up to 1800 volts
- . Soft recovery
- . Ceramic housing hermetic package
- . Pressure assembled device



ELECTRICAL CHARACTERISTICS AND RATINGS

Reverse Blocking

| Device Type | V _{RRM} (1) | V _{RSM} (1) |
|-------------|----------------------|----------------------|
| ZK2000-10 | 1000 | 1100 |
| ZK2000-12 | 1200 | 1325 |
| ZK2000-14 | 1400 | 1525 |
| ZK2000-16 | 1600 | 1750 |
| ZK2000-18 | 1800 | 2000 |

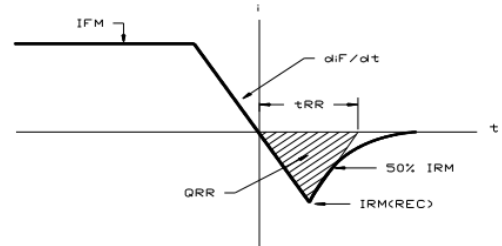
V_{RRM} = Repetitive peak reverse voltage
 V_{RSM} = Non repetitive peak reverse voltage (2)

| | | |
|---|------------------|---------------------|
| Repetitive peak reverse leakage current | I _{RRM} | 15 mA 100 mA (3) |
|---|------------------|---------------------|

Notes:

All ratings are specified for T_j=25 °C, unless otherwise stated

- (1) All voltage ratings are specified for an applied 50Hz/60Hz sinusoidal waveform over the temperature range -40 to +125°C.
- (2) 10 msec. max. pulse width
- (3) Maximum value for T_j = 125°C.
- (4) See parameter definition below :



REVERSE RECOVERY CHARACTERISTIC

Conducting - on state

| Parameter | Symbol | Min. | Max. | Typ. | Units | Conditions |
|---|----------------------|------|---------|------|------------------|---|
| Average forward current | I _{F(AV)} | | 2000 | | A | Sinewave180°, T _c = 70 °C |
| RMS forward current | I _{FRMS} | | 3140 | | A | |
| Peak one cycle surge (non repetitive) current | I _{FSM} | | 28000 | | A | 10 msec (50Hz), sinusoidal wave-shape, 180° conduction, T _j = 125 °C |
| I square t | I ² t | | 3920000 | | A ² s | 8.3 msec and 10.0 msec |
| Peak forward voltage | V _{FM} | | 2.20 | | V | I _{FM} = 3000A; Duty cycle ≤ 0.01% |
| Reverse Recovery Current (4) | I _{RM(REC)} | | * | | A | I _{FM} = 1000 A; dI _F /dt = 10 A/μs; T _j max |
| Reverse Recovery Charge (4) | Q _{rr} | | * | | C | I _{FM} = 1000 A; dI _F /dt = 10 A/μs; T _j max |
| Reverse Recovery Time (4) | t _{rr} | | 6 | | s | I _{FM} = 1000 A; dI _F /dt = 10 A/μs; T _j max |

* For guaranteed maximum values, contact factory

| Parameter | Symbol | Min. | Max. | Typ. | Units | Conditions |
|---------------------------------------|-----------|------|----------------|------|-------|--|
| Operating temperature | T_j | -40 | +125 | | °C | |
| Storage temperature | T_{stg} | -40 | +140 | | °C | |
| Thermal resistance - junction to case | R_{-c} | | 0.0125 | | °C/W | Double sided cooled (1) @ 2000 lb.; (2) @ 800 lb. |
| Thermal resistance - junction to case | R_{-c} | | 0.025 | | °C/W | Single sided cooled (1) @ 2000 lb.; (2) @ 800 lb. |
| Thermal resistance - case to heatsink | R_{-s} | | 0.004 0.008 | | °C/W | Double sided cooled * Single sided cooled * |
| Mounting force | P | | | 33 | kN | |
| Weight | W | | | 850 | g | |

* Mounting surfaces smooth, flat and greaseless

CASE OUTLINE AND DIMENSIONS

